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TEST OF T14 FEED MECHANISMS FOR 20MM GUN AN-M2(U) ARMY
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PROOF DEPARTMENT
ARMY AIR FORCES PROVING GROUND COMMAND
EGLIN FIELD, FLORIDA

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FINAL REPORT

ON

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TEST OF T14 FEED MECHANISMS FOR 20MM GUN AN-M2

Serial No.: 2-43-91 No. of Pages: 5 Date: 23 November 1943
AAF Board Project No. (M-5) 23

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AUTHORITY: 1st Dec Eglin 12/13

BY B. S. G.
NAME AND GRADE

DATE 12/18/46

J. O. GARDNER,
Colonel, Air Corps,
Actg. Chief, Proof Department.

APPROVED:

GRANDISON GARDNER,
Brigadier General, U.S. Army,
Commanding.

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1. OBJECT:

a. The primary purpose of this test is to conduct air firing tests of the T14 feed mechanism as a basis for standardization.

b. The secondary purpose is to obtain data relative to the life expectancy of 20mm gun components and to obtain a general appraisal of the P-70 gun installation.

2. INTRODUCTION:

The test was requested in a letter from the Army Air Forces Materiel Command, Wright Field, Dayton, Ohio, dated 8 September 1943, to Commanding General, Army Air Forces Proving Ground Command, Eglin Field, Florida, subject: "T14 Feed Mechanisms for 20mm Gun AN-M2." The test was begun 18 September 1943 and concluded 2 November 1943.

a. Description.

(1) The T14 feed mechanism consists of a spring driven pair of sprockets mounted on a central shaft which forces the ammunition into the throat of the feeder, a free-wheeling drive mounted on the forward end of the shaft, a slipping clutch of improved design to prevent overwinding, link stripping cams located in the throat of the feeder, operating levers permitting winding of the feeder during both recoil and counter-recoil motions, and a supporting framework which attaches to the gun in the same manner as does the AN-M1 mechanism. (See Inclosures 7 and 8.)

(2) The feed mechanism may be initially wound at either the front or rear of the shaft, but it may be unwound only at the rear point. When wound at the front of the shaft, the slipping clutch is interposed between the driven shaft and the spring so that it is impossible to exert too much tension. When wound at the rear, however, the slipping clutch is short circuited and the operator will have to be experienced enough to know when he has applied the proper tension. The rear end of the shaft comprises a part of a positive clutch and in order to engage the clutch before the shaft is turned, it is necessary to press it inward toward the feed mechanism approximately $3/16"$.

(3) The design of the link is based on the requirement for stripping rounds directly from the link without any relative axial movement between the link and the round. To suit this requirement, the link is equipped with an extended ear protruding from each side of the double loop,

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which, when passing through the feed mechanism, is guided through stripping cams. The ammunition belt is assembled so that the top of the link is 3.80" from the base of the round. For the left or right-hand feed mechanism the belt is assembled so that the closed portion of the link enters at the top side of the feed mechanism, the single loop leading. No round is placed in the leading single loop, but a round is placed in the trailing double loop.

3. CONCLUSION.—It is concluded that:

The T14 feed mechanisms for 20mm cannon AN-M2 (after modifications were made by the Oldsmobile representative, refer to paragraph 6 c) operated in an excellent manner in comparison to the AN-M1 feed mechanism.

4. RECOMMENDATIONS.--It is recommended that:

a. The subject T14 feed mechanisms, as modified, be made standard equipment for 20mm cannon installations after the following additional changes have been made:

- (1) The door cover bracket be fastened more securely to the feed mechanism.
- (2) A thumb type spring latch be installed on the outside of the operating yoke.

5. RECORD OF TEST:

a. The test was conducted in accordance with the test program, which is attached as Inclosure 1, except that only about fifteen hundred (1500) rounds of A.P. ammunition were used, while the remainder expended was ball ammunition.

b. The airplane was flown under the various conditions as described in the test program with no apparent effect upon feeding.

c. Gun history charts are attached as Inclosure 2. The firing summary of the total missions are attached as Inclosure 3. The scores for the ground gunnery are attached as Inclosure 4. The component parts breakage record is attached as Inclosure 6.

6. DISCUSSION:

a. A summary of feeder stoppages for feeders tested at this station follows:

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<u>Type of Feeder</u>	<u>Rds. Fired</u>	<u>No. of Stoppages</u>	<u>Rds/Stoppage</u>
T-14 (final modification)	12,499	6	2,083
T-14 (before modification)	2,393	5	478
AN-M1	33,732	43	784
M1E1	7,944	16	496

b. Less time is required to train personnel properly to maintain the T14 feed mechanisms for 20mm cannon than is required for the AN-M1 feeders. The T14 feeders are open and expose all of the operating parts; breakages can be seen easily without taking the feeder apart. This type feeder will require less maintenance in actual field conditions. No oiling is necessary and the parts do not burr as easily as in the AN-M1 feeders. Burrs often make it necessary to take the AN-M1 feeders apart and stone the burred parts. The T14 feed is more easily and quickly taken apart and reassembled than the AN-M1 feeder. It is not necessary to take the T14 feeder apart as often as the AN-M1 feeder. The T14 feeders are smaller and easier to install. (See Inclosures 7 and 8.)

c. Upon arrival of the airplane at this station, the guns were checked and cleaned and five (5) missions were fired with rather poor results. After the first two (2) missions, the link ejection chutes were properly aligned to prevent link jams. After the fifth mission, the Oldsmobile representative took the feeders apart for a minute inspection and made the following changes:

- (1) The original free-wheeling drive units were replaced by new ones having the inner surface of the deep pocket shot-blasted. The shot-blasting pits the surface of the pocket, thus allowing the lubricant between the free-wheeling spring and pocket to escape during the drive portion of its cycle. This eliminates slippage.
- (2) The original link ejection deflectors were replaced by new ones designed to give better control and guidance to the link as it is being stripped from the round.
- (3) It was discovered that the link had been incorrectly positioned on the round due to misinformation. This mistake was corrected by placing the round 2-9/32" from the rear edge of the double loop to the base of the cartridge.

d. During the course of the test, one (1) door cover bracket broke off from the feeder due to a poor job of spot-welding. This condition can be corrected by fastening this bracket by a heavier weld or a rivet. (See Inclosure 5.)

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e. A thumb type spring latch should be installed on the outside of the yoke to prevent the operating lever of the feeder from coming out of the yoke and causing a gun stoppage. This stoppage occurred four (4) times on one (1) feeder, due to a weak plunger spring unlatching while firing.

f. In this installation the link ejection chutes were not aligned properly and caused link jams on several of the first missions. This condition was corrected by aligning these chutes properly with the guns.

7. INCLOSURES:

Inclosure 1 - Test Program.
Inclosure 2 - Gun History Charts.
Inclosure 3 - Firing Summary.
Inclosure 4 - Gun Scores.
Inclosure 5 - Photographs.
Inclosure 6 - Component Parts Breakage Record.
Inclosure 7 - Photograph.
Inclosure 8 - Photograph.

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Prepared by:

J. W. Waters
J. W. WATERS,
Captain, Air Corps,
Project Officer.

Concurred in:

J. R. Yglesias
J. R. YGLESIAS,
1st Lt., Air Corps,
Group Test Officer.

Concurred in:

G. W. Mitchell
G. W. MITCHELL,
Major, Air Corps,
Group Armament Officer.

Approved by:

W. A. Shepard
W. A. SHEPPARD,
Major, Air Corps,
Chief, Machine Gun
and Cannon Section.

Approved by:

J. S. Guthrie
J. S. GUTHRIE,
Colonel, Air Corps,
Chief, Testing Branch.

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PROOF DEPARTMENT
ARMY AIR FORCES PROVING GROUND COMMAND
EGLIN FIELD, FLORIDA

24 September 1943

SUBJECT: Program for Test of T14 Feed Mechanisms for 20mm Gun AN-M4.
(S.T. No. 2-43-91)

TO: Commanding Officer, 1st Proving Ground Group, AAFPGC,
Eglin Field, Florida.

1. GENERAL:

a. Description of the T14 Feed Mechanism.

- (1) The T14 feed mechanism consists of a spring driven pair of sprockets mounted on a central shaft which forces the ammunition into the throat of the feed, a free-wheeling drive mounted on the forward end of the shaft, a slipping clutch of improved design to prevent overwinding, link stripping cams located in the throat of the feed, operating levers permitting winding of the feed during both recoil and counter-recoil motions, and a supporting framework which attaches to the gun in the same manner as does the AN-M1 mechanism.
- (2) The feed mechanism may be initially wound at either the front or rear of the shaft, but it may be unwound only at the rear point. When wound at the front of the shaft, the slipping clutch is interposed between the driven shaft and the spring so that it is impossible to exert too much tension. When wound at the rear, however, the slipping clutch is short circuited and the operator will have to be experienced enough to know when he has applied the proper tension. The rear end of the shaft comprises a part of a positive clutch and in order to engage the clutch before the shaft is turned, it is necessary to press it inward towards the feed mechanism approximately 3/16".
- (3) The design of the link is based on the requirement for stripping rounds directly from the link without any relative axial movement between the link and the round. To suit this requirement, the link is equipped with an

Inclosure 1.

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extended ear protruding from each side of the double loop, which when passing through the feed mechanism, is guided through stripping cams. The ammunition belt is assembled so that the top of the link is 3.80" from the base of the round. For the left or right hand feed mechanism the belt is assembled so that the closed portion of the link enters at the top side of the feed mechanism, the single loop leading. No round is placed in the leading single loop, but a round is placed in the trailing double loop.

- (4) The mechanism weighs twelve (12) pounds, and occupies less space than the AN-M1 feed mechanism.
- (5) The winding energy for the feed is transmitted from the gun by means of a bracket assembly which is attached to the gun receiver and which operates an engaging lever protruding from the feed mechanism.
- (6) The feed is designed to operate on approximately 5/8" recoil. The design of the mechanism is such that in the event some of the original torque is lost, it cannot be regained, however, no torque will be lost unless the recoil drops below the required 5/8" travel.
- (7) A last round retainer device is incorporated which is similar to that provided in the AN-M1 feed mechanism.
- (8) Each front gun has two hundred (200) rounds and each rear gun three hundred (300) rounds of ammunition available.

b. This is a FIRST PRIORITY experimental service test.

c. Eight thousand (8,000) rounds of A.P. and eight thousand (8,000) rounds of ball 20mm ammunition are authorized for this test.

d. This test was requested in a letter from the AAF Material Command, Wright Field, Dayton, Ohio, to Commanding General, Army Air Forces Proving Ground Command, Eglin Field, Florida, subject: "T14 Feed Mechanisms for 20mm Gun AN-M2."

e. Captain John W. Waters is designated as the Machine Gun and Cannon Section Project Officer for this test.

f. 1st Lt. T. R. Iglesias is designated as the 1st Proving Ground Group, AAFFPGC, Test Officer for this test.

g. At the conclusion of this test, which should be conducted for a period of fourteen (14) days, the subject airplane will be disposed of in accordance with existing regulations.

2. OBJECT:

a. The primary purpose of this test is to conduct air firing tests of the T14 feed mechanism as a basis for standardization.

b. The secondary purpose is to obtain data relative to the life expectancy of 20mm gun components and to obtain a general appraisal of the P-70 gun installation.

3. METHOD OF CONDUCTING TEST:

a. The four (4) guns will be fully loaded with A.P. ammunition and the airplane will be flown at a speed of two hundred forty (240) miles per hour and the guns will be fired out during level flight and at maximum accelerations.

b. The airplane will be flown as described in the above paragraph and the guns fired in the same manner but the guns will be fully loaded with A.P. and ball ammunition loaded one (1) to one (1).

c. The guns will be fully loaded with ball ammunition and the airplane will be flown as described in paragraph a and the guns will be fired out while the airplane is in steep glides.

d. The two (2) right guns will be fully loaded with ball ammunition while the two (2) left guns are fully loaded with A.P. ammunition. The airplane will be flown as described in paragraph a, and the guns will be fired out with a series of right and left banks.

e. The airplane will be flown with the guns fully loaded as described in paragraph d, and the guns will be fired out during a series of steep climbs.

f. The airplane will be flown and the guns fully loaded as described in paragraph d, and the guns will be fired out during severe pull-outs.

g. Any or all of the above missions will be repeated until malfunctions are reduced to a minimum and until at least four thousand (4,000) rounds are fired through each feeder.

4. RECORDS:

a. The armament member will load each gun so that a dummy round will be the third one from the end of the belt. A torque reading will be

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taken at the start of the mission and also at the conclusion of each firing. Belts will be given the usual check for weak or binding links.

b. The armament member will keep gun histories showing the number of rounds fired, malfunctions, breakages, and hours of maintenance, paying particular attention to each and every component replacement.

c. Photographs will be taken by the Proof Department Photographer of the subject equipment and of any constructional failures that may occur.

5. REPORTS:

a. A daily progress report will be maintained by the Project Officer in the office of the Machine Gun and Cannon Section, Proof Department.

b. A final report will be prepared by the Project Officer, after a conference with all participating personnel, and submitted to the Chief of the Proof Department, through the Chiefs of the Testing Branch and Machine Gun and Cannon Section, immediately upon completion of the test.

By Command of Brigadier General GARDNER:

J. O. Guthrie
J. O. GUTHRIE,
Colonel, Air Corps,
Actg. Chief, Proof Department.

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Prepared by:

J. W. Waters

J. W. WATERS,
Captain, Air Corps,
Project Officer.

Concurred in:

J. E. IGLESIAS,
1st Lt., Air Corps,
Group Test Officer.

Approved by:

W. A. SHARP,
Major, Air Corps,
Chief, Machine Gun and
Cannon Section.

Approved by:

J. O. GUTHRIE,
Colonel, Air Corps,
Chief, Testing Branch.

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Airplane Type P-70 Airplane No. 39-736 S.O. # 243-91

Unit Type 20 mm Gun Serial No. 165610 Location Left Outboard

Rounds loaded	Rounds Fired	Total to Date	Date Fired	Arms Initial	Type	Remarks
<p>Previous rounds fired - 530</p>						
225	225	9/18	RHB	AP	OK.	Torque not checked.
300	5	230	9/22	RHB	Ball	Action home-no round in chamber-broken driving spring-guns cleaned
<p>(Link chutes aligned in Sub-Depot)</p>						
300	30	260	9/23	RHB	Ball	Feed run down-mount loose-torque before mission 275#, after, 100# (inch #)
300	115	405	9/24	RHB	APeBall	Feeder run down-round in chamber but projectile damaged enough to prevent bolt from going into battery position.
300	25	500	9/25	RHB	Ball	Feeder run down-failure to feed-torque before take-off 325#, after, 75#.
<p>75#. Feeders had new free-wheeling unit installed. - Guns cleaned and checked.</p>						
25	25	525	10/1	RHB	Ball	OK. Bore sight range-checked recoil.
300	226	751	10/2	RHB	Ball	11 links in emmo, belt torque OK
300	294	1045	10/4	RHB	Ball	Link jam-round out of line in belt
300	300	1345	10/4	RIB	Ball	OK. Torque OK

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39-736 S. T. # 245-91

P-70

20 Jan No. 165610 Left Outboard

Part	Size	Spec	Actual	Notes
300	1645	10/5	RHB	Ball OK. Torque OK, guns cleaned and checked
300	1945	10/11	RHB	Ball OK. Torque OK
300	2225	10/12	RLB	AP & Bell OK. Torque OK, guns cleaned and checked, cracked breechblock lock replaced
300	2545	10/18	LFR	Ball OK. Torque OK
300	2845	10/22	"	" OK
300	45	2890	10/24	" Separated belt (weak link)
300	134	3028	10/28	RHB " OK. Pilot stopped firing
300	5	3033	10/30	" Link jam, bent prong on link
300	300	3333	10/30	" " OK
300	25	3350	10/30	" " Broken firing pin, broken firing pin parts, turned firing pin slot, bolt replaced.
300	300	3654	11/1	" " OK
300	300	3950	11/2	" " OK
300	300	4258	11/2	" " OK. Replaced gas cylinder vent plug

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T-24

P-70

Ammunition No. 32-736

20 MM

S.T. # 243-91

165616

Right Outboard

Previous rounds fired - 530

225 25 25 2/26 RBB

AP Rounds out of line in belt

300 11.5 170 2/22 "

Link jam, link chute out of position. (Link chutes aligned in Sub-Depot) Guns cleaned and checked. New type firing pins installed.

300 170 340 2/23 "

Insufficient recoil due to loose mount. Torque before mission 250%.

300 300 61.0 2/21 "

After mission 150%.

300 25 61.5 4/25 "

Feeder run down, failure to feed.

25 25 620 110/1 "

Torque before mission 32%.

300 300 790 111/2 "

After mission 150%.

300 300 1220 125/6 "

OK, Torque OK

300 300 1520 101/1 "

OK, Torque OK

300 50 1840 124/5 "

Link jam. Link chute bent and was straightened.

300 255 1895 121/1 "

" belt came apart inside ammunition can (weak link).

300 300 2195 101/12 "

AP/Shell OK Torque OK, guns cleaned and checked, cracked breech lock re-

Inclosure 2, page 3.

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P-70

39-736 S.T. # 2-43-91

20 M

165616

Right Outboard

300	300	2495	10/13	WTR	Ball	OK	
300	118	2613	10/22	"	"		Failure to extract. Extractor spring broken and driving spring replaced.
300	300	2213	10/21	"	"	OK	
300	138	3051	10/25	RUB	"	OK	OK. Pilot stopped firing.
300	300	3351	10/30	"	"	OK	
300	300	3651	10/30	"	"	OK	OK. replaced cracked breechblock lock, driving spring and rear buffer assembly. Retainer pin broken.
300	300	3951	10/30	"	"	OK	
300	300	4251	11/1	"	"	OK	
300	150	4401	11/2	"	"		Magazine slide securing arm screw broken
300	300	4701	11/2	"	"	OK	OK. gas cylinder sleeve spring broken and replaced, installed new gas cylinder vent plug, changed burr'd injector.

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P-70 29-36 SIT. # 2-43-91

20 MM

165612

Right Inboard

Previous rounds fired - 730

155	53	53	3/18	RHB	AP	Light struck primer	
200	45	98	9/22	"	Ball	Link jam. Ammo out of line in belt (link chutes aligned in Sub-Depot). Guns cleaned and checked. New type firing pins installed.	
200	200	298	9/23	"	"	OK, torque before mission 325#. after mission 325#.	
200	88	386	9/24	"	AP&Ball	Weak links, broken belt, torque OK Feeders had new free-wheeling unit installed. Guns cleaned and checked.	
200	200	586	9/25	"	Ball	OK, torque before mission 375#, after mission 350#.	
200	200	786	10/2	"	"	OK, torque OK	
200	80	866	10/4	"	"	MI links in belt	
200	200	1066	10/4	"	"	OK, torque OK	
200	200	1266	10/5	"	"	OK, torque OK	
200	155	1421	10/11	"	"	Failure to extract empty round	
200	50	1471	10/12	"	AP&Ball	Broken belt; broken breechblock lock replaced. Gun cleaned.	
200	197	1663	10/18	HPR	Ball	Improper alignment of links.	

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Aircraft type P-70 S/N. 39-736 S.T. # 243-91

20 MM

Right Inboard

Serial Number	Part No. Pinned	Total To Date	Actu Date	Initials	No.	Spec No.	Remarks
200	200	1868	10/22	HFR	"	"	OK
200	200	2068	10/24	"	"	"	OK
200	112	2130	10/28	RHB	"	"	OK, pilot stopped firing
200	200	2380	10/30	"	"	"	OK
200	200	2520	10/30	"	"	"	OK
200	114	2694	10/30	"	"	"	Broken firing pin
200	200	2894	11/1	"	"	"	OK
200	25	2919	11/2	"	"	"	Safety wire on ejector studs broken. Ejector loose.
200	200	3119	11/2	"	"	"	OK, new gas cylinder vent plug installed.

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A1: P-70 32-736 S.T. # 243-91
 20 W 165615 Left Inboard

Previous rounds fired - 730

138	38	36	9/13	RHB	AP	Failure to align. Rounds out of line in belt.	
200	169	207	9/22	"	Bull	Guns cleaned and checked. (Link chutes aligned in Sub-Depot)	
200	35	212	9/22	"	"	Broken firing pin. New type firing pin installed.	
200	200	442	9/24	"	AP & Ball	Link jam.	
200	200	612	9/25	"	AP	Feeder had new free-wheeling unit installed. / Guns OK, torque before mission 400#, after mission 375#. / cleaned and checked.	
200	200	312	10/2	"	Bull	OK, Torque OK	
200	103	245	10/4	"	"	Link jam	
200	200	1145	10/4	"	"	OK, Torque OK	
200	200	1345	10/5	"	"	OK, Torque OK	
200	200	1545	10/11	"	"	OK, Torque OK	
200	70	1615	10/12	"	AP & Ball	MI links in belt. Guns cleaned and checked. Cracked breechblock lock replaced.	

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MILITARY AIRCRAFT

Airplane type P-70 Serial No. 39-736 S. T. # 2-43-91Gun type 20 MMGun Serial No. 165615 Installation Left Inboard

Barrel Number (Serial Number)	Total Pounds Fired	To Date	Armor Initial Lot. No.	Type Amm.	Remarks: Give complete information, mission-malfunction, parts replaced, etc.
200	200	1815	10/13	HFR	Ball OK
200	94	1909	10/22	"	Operating lever of feeder out of yoke (no apparent reason)
200	200	2109	10/24	"	OK. Door cover bracket repaired
200	112	2221	10/26	HHR	" OK. Pilot stopped firing
200	50	2271	10/30	"	Operating lever out of yoke. Feed run down (no apparent reason)
200	200	2471	10/30	"	" OK. Replaced cracked breechblock lock
200	78	2549	10/30	"	Operating lever out of yoke. Feed run down (no apparent reason)
200	173	2722	11/1	"	Failure to extract due to burr on cartridge and weak extractor spring. Replaced extractor and extractor spring.
200	40	2762	11/2	"	Insert round in belt. No powder in cartridge.
200	120	2862	11/2	"	Operating lever out of yoke. Feeder run down (no apparent reason) New gas cylinder vent plug installed.

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Summary of Firing After
Modifications Accomplished
as described in paragraph 6 b

Total gun missions	64
Total gun missions fired out	41
Total stoppages	23
Total rounds loaded	15500 (14500 - Ball)
Total rounds fired	12499 (11779 - Ball) (720 - A.P. & Ball)
Percent rounds fired	80.6%
Total rounds not fired	3001
Percent rounds not fired	19.4%
Rounds not fired due to feeder	825
Percent rounds not fired due to feeder	5.3%
Rounds not fired due to gun	738
Percent not fired due to gun	4.7%
Rounds not fired due to ammunition	160
Percent not fired due to ammunition	1.1%
Rounds not fired due to maintenance & misc. . .	1278
Percent not fired due to maintenance & misc.	8.3%

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Number, Type and Rounds Not Fired Due To Stoppages

<u>Feeder Stoppages</u>		<u>Gun Stoppages</u>	
2 - Link jams	347	2 - Broken firing pin	361
<u>4</u> - Operating lever out of yoke	<u>478</u>	2 - Failure to extract	227
6	825	<u>1</u> - Broken magazine slide screw	<u>150</u>
		5	738

Ammunition Stoppages

Maintenance & Miscellaneous Stoppages

1 - Inert round	160	3 - M-1 Link in belt	324
		2 - Failure to align	9
		2 - Weak link	300
		1 - Broken belt	150
		1 - Failure to safety ejector	175
		1 - Bent link	295
		<u>1</u> - Burred round	<u>25</u>
		11	1278

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Summary of Firing Before
Modifications Accomplished
as described in paragraph 6 b

Total gun missions	20
Total gun missions fired out	6
Total stoppages	14
Total rounds loaded	4743
	(943 - A.P. (1000 - A.P. & Ball (2800 - Ball
Total rounds fired	2393
	(541 - A.P. (733 - A.P. & Ball (1119 - Ball
Percent rounds fired	50.1%
Total rounds not fired	2350
Percent rounds not fired	49.9%
Rounds not fired due to feeder	1070
Percent not fired due to feeder	22.6%
Rounds not fired due to gun	326
Percent not fired due to gun	6.9%
Rounds not fired due to ammunition	102
Percent not fired due to ammunition	2.2%
Rounds not fired due to maintenance & misc.	852
Percent not fired due to maintenance & misc.	18.2%

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~~CONFIDENTIAL~~Number, Type and Rounds Not Fired Due to StoppagesFeeder Stoppages

4 - Feeder run down

905

1 - Link jam165

5

1070

Gun Stopages

1 - Broken driving spring

295

1 - Broken firing pin31

2

326

Ammunition Stoppages

1 - Light struck primer 102

Maintenence & Miscellaneous Stopages

3 - Failure to align

455

1 - Loose mount

130

1 - Weak link

112

1 - Link chute out of position 155

6

852

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COMPONENT PARTS BREAKAGE RECORD

	Rounds Fired	Still Firing	Caused Stoppage	Did not cause Stoppage
<u>Left Outboard Gun #165610</u>				
Standard firing pin changed after 1st replacement new type firing pin broke after	230		X	
2nd replacement new type firing pin	3128		X	
Original driving spring failed after 1st replacement driving spring fired	900	X	X	
Original breechblock lock cracked at 1st replacement breechblock lock	4028	X	X	
Original firing pin slot bolt failed at	2245		X	
	2013 (not cracked)		X	
	3358		X	
<u>Right Outboard Gun # 165616</u>				
Standard firing pin changed after 1st replacement type firing pin fired	170		X	
Original breechblock lock cracked after 1st replacement breechblock lock cracked after	4531	X	X	
2nd replacement breechblock lock fired	2195		X	
Original driving spring broken after 1st replacement driving spring replaced after firing	1456		X	
2nd replacement driving spring replaced after firing	1650 (not cracked)		X	
	2613		X	
	1038		X	
	1050		X	

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	Did not cause Storage	
	Caused Storage	
Round's Fired	still Firing	

Right Outboard Gun #165616 - Cont'd

Original extractor spring broken after
1st replacement extractor spring

Original rear buffer assembly

1st replacement rear buffer assembly

Original retainer pin broken

1st replacement retainer pin

Original magazine slide securing arm screw broken
after firing

1st replacement magazine slide securing arm screw

Original gas cylinder sleeve string broken

2613

2083

3651

1050

3651

1050

4401

300

4701

Right Inboard Gun #165612

Standard firing pin changed after firing

1st replacement new type firing pin fired

2nd replacement new type firing pin fired

Original breechblock lock cracked after

1st replacement breechblock lock fired

X

X

X

X

X

X

X

X

X

X

X

X

X

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C O R R I G E M E N T A L

		Rounds Fired	Still Firing	Caused Stoppage	Did not cause Stoppage
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Left Inboard Gun #165615

Standard firing pin changed after firing

1st replacement new type firing pin fired

Original breechblock lock cracked after

1st replacement breechblock lock cracked after

2nd replacement breechblock lock fired

Replaced original extractor and extractor spring after firing

1st replacement extractor and extractor spring fired

2862

207

2655

1615

856

391

2722

140

X

X

X

X

X

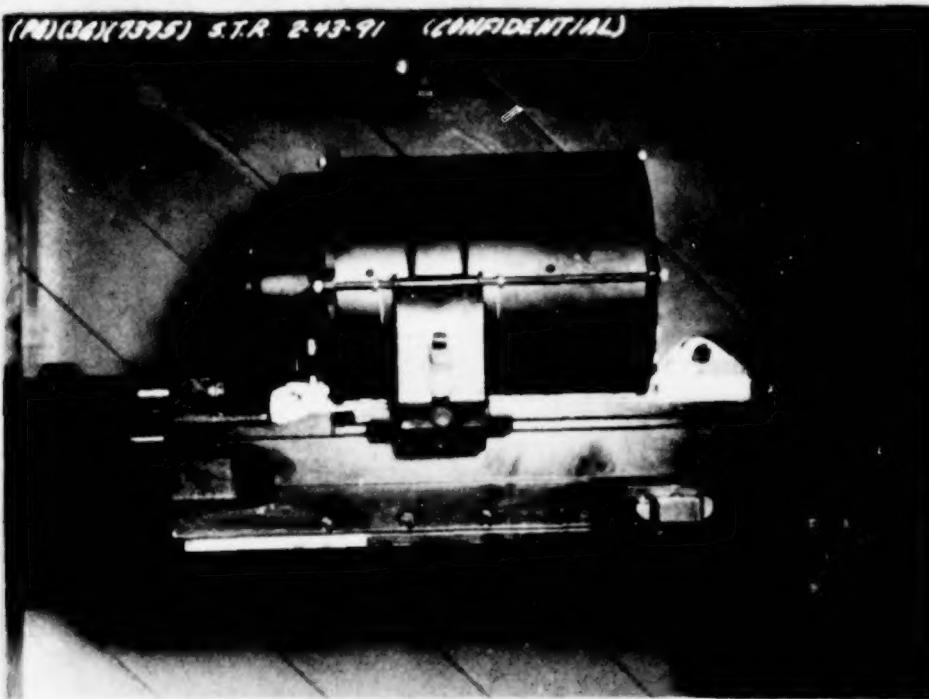
X

X

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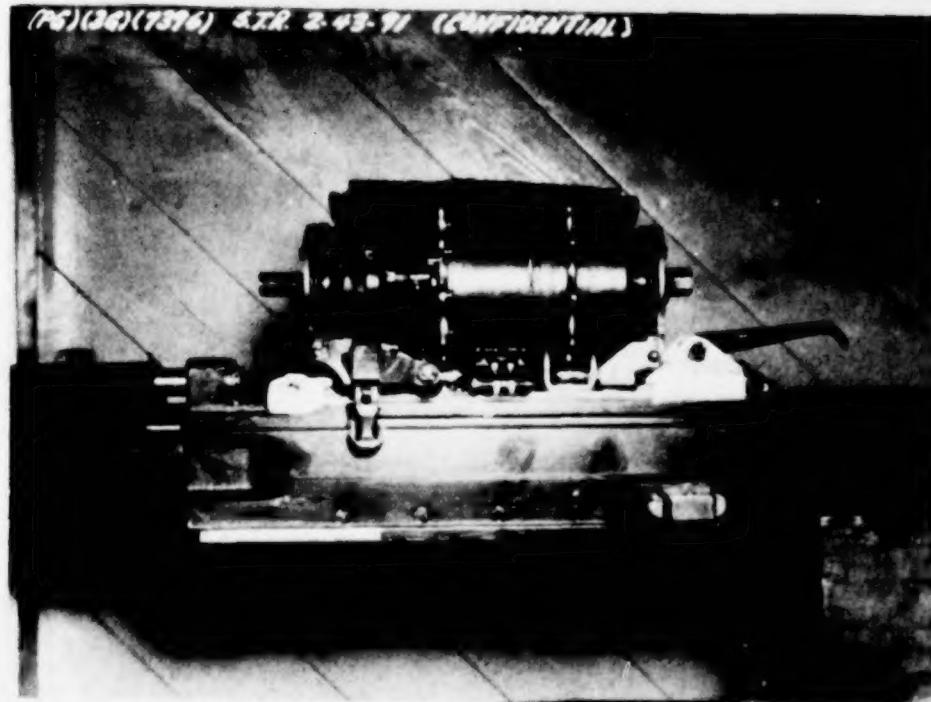
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Side view of
Standard AN-M1
feeder.

(R)(C)(X)7396) S.T.R. 2-43-91 (CONFIDENTIAL)



Side view of T-14
feeder.

Inclosure 7.

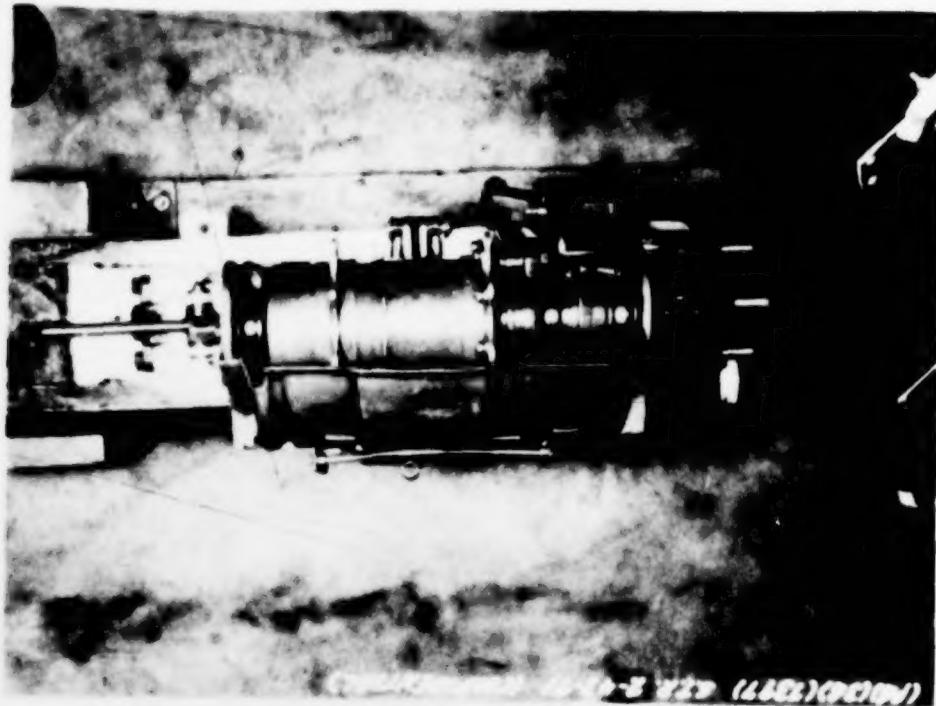
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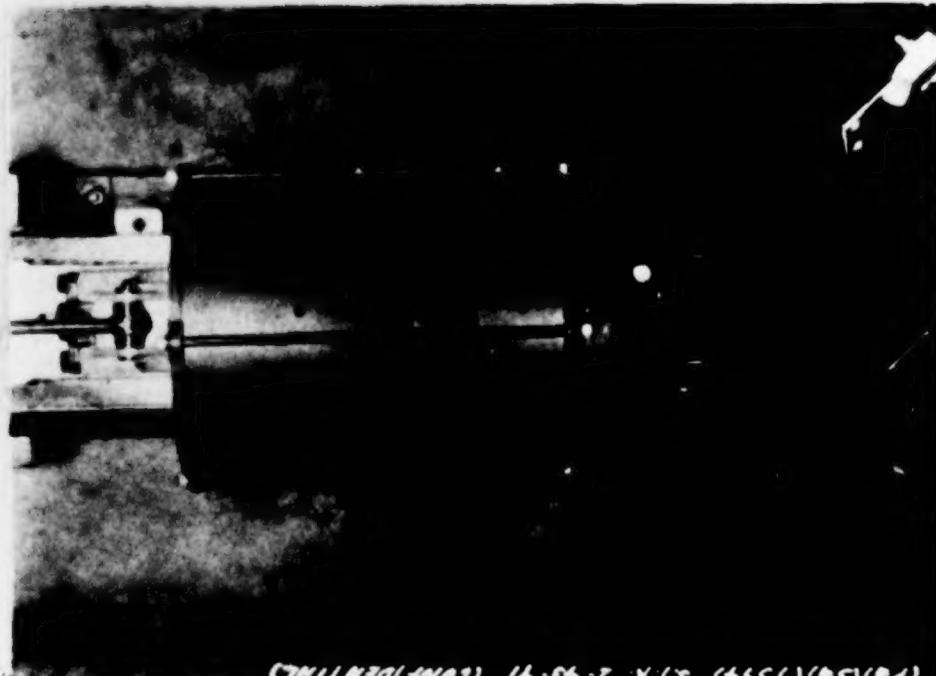
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Enclosure 8.



Top view of T-1L feeder.

These two (2) photo-
graphs show the con-
trate in size of the AN-M1
and T-1L feeders.



Top view of AN-M1
feeder.

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DATE:

11-94

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